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ADVISORY CIRCULAR

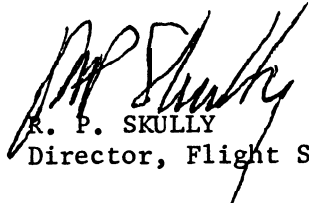
DEPARTMENT OF TRANSPORTATION FEDERAL AVIATION ADMINISTRATION

SUBJECT: STROBE LIGHT SYSTEM INSPECTION PRACTICES

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1. PURPOSE. This advisory circular is issued to advise the general aviation community of the importance of proper maintenance of capacitive discharge strobe light systems which are installed within or near fuel systems.
 2. BACKGROUND. Several wing tip explosions have occurred after fuel vapors were ignited by a malfunctioning strobe lamp mounted in the tip tank structure. An examination of some aircraft has revealed that electrical conduits, which house strobe light wiring within the wing **tip** fuel **tanks**, are being damaged by fuel hose nozzles during refueling operations. High energy levels exist in the capacitive discharge strobe light systems. During the short period of discharge (lamp **flash**), the energy expended can reach a peak of **300** amperes and temperatures of **635°F**. A damaged conduit, along with subsequent damage to the enclosed wiring, could permit arcing to take place and may create a hazard to the aircraft.
 3. RECOMMENDATIONS. During the performance of prescribed aircraft maintenance or inspections, maintenance personnel should inspect for the following conditions:
 - a. Good electrical circuit connections and grounding to reduce the possibility of arcing.
 - b. Any sign of fuel leaks or fuel stains in the strobe light housing.
 - c. Fuel servicing nozzle damage to electrical conduit in tip tank installations (using an explosive-proof flashlight).
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- d. With the communication, navigation and strobe light systems operating, maintenance personnel should listen for interference or a clicking sound in synchronization with the strobe light operation.
 - e. Servicing personnel should use caution during refueling operations so as not to damage any conduits within the fuel tanks.
4. ACTION. If any of the deficiencies mentioned in paragraph 3 are found, the appropriate corrective action should be taken. ,



R. P. SKULLY

Director, Flight Standards Service